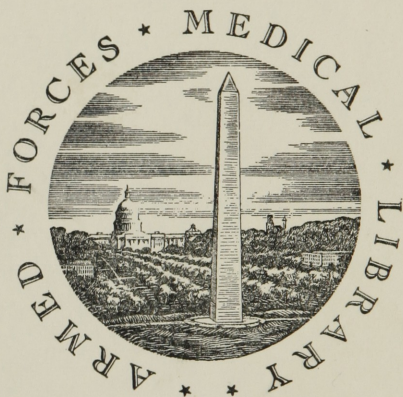




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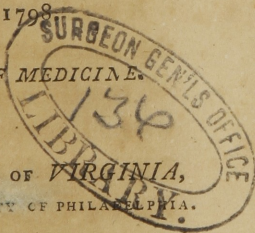


AN  
INAUGURAL DISSERTATION  
ON  
PUERPERAL FEVER,  
SUBMITTED TO THE EXAMINATION  
OF  
*THE REV. JOHN EWING, S.T.P. PROVOST,*  
THE  
TRUSTEES, AND MEDICAL FACULTY,  
OF  
THE UNIVERSITY OF PENNSYLVANIA,

On the 22d Day of May, 1798

*FOR THE DEGREE OF DOCTOR OF MEDICINE.*

BY  
JAMES THRUSTON HUBARD, OF *VIRGINIA*,  
HONORARY MEMBER OF THE MEDICAL SOCIETY OF PHILADELPHIA.



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Multum egerunt, qui ante nos fuerint, sed non peregerunt;  
multum adhuc restat operæ, multumque restabit, neque ulli  
nato post mille sæcula præcidetur occasio aliquid adjiciendi.

SENECA.

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INVAUCURAL DISSERTATION

ON

PHILIPPAEAE FEVER

BY

JAMES SKELTON CHILHAM, M.D.

AND

PHILIP SYNGE THORNTON, M.D.

THIS DISSERTATION IS MOST

RESPECTFULLY DEDICATED BY

THEIR SINGULAR FRIEND AND PUPIL

JAMES T. HUBBARD

TO THE UNIVERSITY OF TORONTO

IN COMPLIANCE WITH THE

REQUIREMENTS OF THE FACULTY

IN THE DEPARTMENT OF MEDICINE

AND IN THE UNIVERSITY OF TORONTO

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TO  
JAMES SKELTON GILLIAM, M. D.

AND  
PHILIP SYNG PHYSICK, M. D.

THIS DISSERTATION IS MOST  
RESPECTFULLY INSCRIBED BY  
THEIR SINCERE FRIEND AND PUPIL,  
JAMES T. HUBARD.



2 J. Stuart U.S.D.

With the Best Wishes of his  
Friends & fellow Graduates  
The author

# PUERPERAL FEVER.

---

IN treating of this disease, I shall very briefly inquire into the first accounts we have of it ; rather in obedience to a long established custom, than from an opinion of the general utility, or even propriety of such inquiries.

We do not find the term “Puerperal Fever,” in any book, earlier than the *Criticon Februm*\* of Dr. Strother ; though the writings of Hippocrates contain an accurate description of most of the symptoms of this fever, under the title of Suppression of the Lochia†. After this, it is described by the Arabian physicians, particularly Avicenna‡, and in a very similar manner ; and in still more

\* Published in 1718.

† Opera Omnia. Lib. De Morbis Mulierum, Sparsim.

‡ Canon Medicinæ. Tom. 1. liv. iii.

modern times, we find many descriptions of the disease, in the writings of Platerus\*, Sennertus†, Riverius‡, Sydenham§, Willis||, Boerhaave¶, Van Sweiten\*\*, and others under the head either of Inflammation of the Uterus, a Suppression of the Lochia, an Impeded Secretion, or a Metastasis of the Milk.

It was not until the early part of the present century, that the disease was described under the present appellation, and considered as a fever of a distinct kind. Since this period we have had a number of valuable publications on the subject.

This fever, as its name implies, is peculiar to the puerperal state; and most frequently appears on some day from the second, to the eighth or ninth, after parturition. To this, however, there are exceptions, as in some instances it has occurred as late as six weeks†† after this period, and again, there are

\* Praxis Medica. Tom. 2.

† Opera. Tom. 3.

‡ Opera Universa. Lib. xv.

§ Processus Integri.

|| Opera Omnia. Cap. 16.

¶ Aphorismi 1329 et seq.

\*\* Commentaria in Boerh. Aphor. 1329 et seq.

†† Dr. Rush's Mss. Lectures. Dr. Denman.



facts to prove, that it sometimes commences even before this event\*.

It generally commences with a rigor or chilliness, of longer or shorter duration, which is succeeded by fever, attended in its early stage, with a very frequent, a full, and very often a tense pulse. This order is subject to variation, as the fever sometimes comes on gradually, without previous chilliness, or indeed any premonitory symptom.

Daily exacerbations are sometimes observed, and they are not unfrequently preceded by a return of the rigor. With the commencement of the fever more or less disorder occurs in the alimentary canal; the patient being very generally affected with either nausea, a vomiting of bilious, and in some instances, a dark foetid matter, or with a profuse diarrhœa. These evacuations are sometimes so very profuse, that they exhibit a striking similarity to genuine cholera†.

The head frequently participates more or less of the general disturbance, and is often affected with severe pain, particularly about the forehead and eye-

\* Dr. Joseph Clark. Dr. Denman.

† Leake on child-bed fevers, Vol. 2, p. 47. Manning on female diseases, p. 362. Denman.

brows ; giddiness, vertigo, tinnitus aurium, and sometimes, though rarely, with delirium\*.

Very early after the commencement of the disease, the patient begins to complain of pains in the hips, loins, groins, &c. but particularly in the abdomen, which very often swells to a considerable degree, and in many instances becomes so exquisitely sensible, as to render the slightest touch, or the pressure of the bed-clothes, extremely painful. This tumefaction of the abdomen, is by no means an universal occurrence, as there are cases on record, in which it was entirely absent, although they were very violent and fatal.†

The functions of the respiratory organs are very often affected ; and hence we frequently find the respiration short and difficult, and often interrupted by a distressing cough. Pains in different parts of the thorax also frequently occur.

The lochia often continue‡: sometimes they are suppressed, and in other instances they become black, and extremely foetid, with the increase of the disease.

\* Hulme, Leake, Drs. John and Joseph Clark, &c.

† White on lying-in women.

‡ Hulme, 11. Leake, 2 vol. p. 52. Denman's Mid. 2 vol. p. 485. Kirkland on childbed fevers, p. 93, &c.

The milk in many instances is secreted in its usual quantity ; in some it is increased, in others\* it is diminished ; and in violent cases, it is generally suppressed. The urine is generally of a high colour, small in quantity, and discharged with considerable difficulty. Sometimes a burning heat attends the discharge of it, and in some instances it is altogether suppressed†.

There is usually much thirst. The tongue is usually white, and is moist and soft to the touch. In this situation it sometimes continues until the approach of death ; but commonly before this event it becomes dry and rough, and changes to a dark brown colour, often with a mixture of yellowness. Watchfulness, anxiety, and dejection of mind are very usual attendants.

With these symptoms the fever continues for a few days, more or less in different instances ; and in its progress is attended with an increased frequency, quickness, and irregularity of the pulse, and frequently with a considerable diminution of its force.

\* Leake, 2 vol. p. 53. Black's Comparative View, &c. p. 376. Medical Comment, Philad. edit. vol. 8, p. 175.

† Tiffot avis au peuple, &c. sect, 369.



It is now that the fever passes into what may be called its chronic or typhous form; and here it is often accompanied with an increase of the symptoms above enumerated; to which are now usually added partial and clammy sweats, petechiæ, vibices, miliary eruptions, apthæ in the mouth, fauces, &c. hiccuping, great irritability, or else torpor of the stomach, involuntary discharges of fœces and urine, coma, convulsions, and finally death.

Such is the general progress of the disease where its termination is fatal. In those instances, however, where it terminates favourably, it is generally through the fortunate intervention of a profuse vomiting, a long and tedious diarrhœa, (which I may here observe is sometimes a mode of fatal termination) profuse sweats\*, anasarcaous swelling of the lower extremities, hæmorrhages, or abscesses in various parts of the body.

The duration of the disease is various. In general where it terminates fatally, it is on some day from the fifth to the tenth or eleventh, from the attack. Instances of its fatality have, however, occurred during the rigor itself,† and very often in 24 hours.

\* Denman's Midwifery, vol. 2, p. 490 and 500.

† Idem, vol. 2, p. 486. Manning, p. 364.

Its termination in recovery is tedious, and in this country at least, rarely happens before the twelfth, fifteenth, or twenty-second day.\*

From the most accurate histories of this fever, its occurrence does not appear to be influenced by any particular season of the year; so little, indeed, that we find scarcely any thing said with a reference to this subject. It is, however, very often the consequence of a particular constitution, or rather impregnation of the air, and has been at various periods very fatally epidemic.†

The influence of an epidemic constitution of the air (as it is termed) on the diseases of puerperal women, was well known to Hippocrates‡, Sydenham,§ and Bartholine.||

In the possession of the facts, I am able to collect on this subject, I find it impracticable to ascertain the particular circumstances of the air which render it

\* Dr. Rush's Mss. Lectures,

† *Memoirs de l'Academie des Sciences*, l'ann 1746, Leake on childbed fevers, vol. 2. White on lying-in women, Medical Comment, vol. 8, Philad. edit. Clark, on lying-in women, Gordon, on puerperal fever, &c.

‡ *De Morbis Epidemicis*,

§ *Opera*, Epist. ad Gul. Coli, M. D.

|| *Acta Medica*.

epidemic ; I am, however, inclined to believe, that it has been in these instances, rather the effect of a peculiar contagion or infection, than of any such change produced in the air, as might predispose to a general epidemic disease. I adopt this opinion for the following reasons, viz.

1st. Unlike other epidemics it has never existed as such in country situations, but has always committed its ravages in crowded cities, hospitals, &c.

And 2dly. Because its propagation has been, in several instances, effectually prevented, by obviating the dissemination of contagious effluvia from sick bodies. Moreover, we know of no epidemic disease, properly so called, which exclusively affects those only in a very particular situation.

The diagnosis here is generally easy, as the symptoms are such as rarely, perhaps never occur in any other puerperal affection.\* The pain, swell-

\* It may be expected, that I ought to have attended to the difference between this fever and hysteritis, peritonitis, &c, as inculcated by Dr. Clark. This distinction, I conceive, to be more perplexing than profitable ; and withal it could not be applied to any useful variety in practice, as all of these affections, according to their degree, are best treated by remedies hereafter to be mentioned. Moreover, I am inclined to doubt the alledged frequency of their occurrence as idiopathic affections in child-bed.



ling, and fenfibility of the abdomen, have generally been confidered as pathognomonic fymptoms; and to thefe we may add the unusual frequency of the pulfe.

Women of a naturally weak and irritable conftitution, or who have been debilitated by much hardfhip during pregnancy, by grief, fear, difappointment, and other depreffing emotions and paffions, inattention to regular alvine difcharges, violent exercife, difturbed reft, and indeed every kind of intemperance, are fupposed to be peculiarly predifpofed to this fever. This natural or acquired debility is alfo further increafed by the fudden fubduction of the ftimulus of the diftended gravid uterus, &c.

An attention to the above caufes and their ultimate effects, will readily convince us, that they produce an aptitude to difeafe, not by partially inducing the indisposition which may follow, but by leffening the force of, or by fubverting more or lefs the healthy actions, or in other words, by inducing debility. Whether in this ftate of the fystem excitability be pofitively increafed or not, I cannot determine; to me, however, it is fufficient to know, and to obferve, that debility, whether the refult of an excefs or deficiency of ftimulus, does as certainly predifpofe to difeafe, as leffening the

weight of a body will increase the facility with which we raise it.\*

To obviate any objection to this proposition, I will briefly illustrate it by a few more.

1. Health consists in a complete, vigorous, and undisturbed performance of all the functions peculiar to the mind and body, and is always the result of the application and action of stimuli on the body, properly accommodated to its powers of action.

2. A diseased action, and the actions of health can never exist at the same time in the same part.

3. No disease takes place without a cause; and this must be an irritation of greater or less force.

4. Disease can never arise from the action of irritants unless they either absolutely exceed in force the stimuli which support health, or their force be indirectly increased, by a reduction of the force and power of the healthy actions. When these circumstances take place either by the application of a stimulus to the body in health, much exceeding in force the healthy stimuli, or by the application of one of usual force, to the body any how debilitated, we have disease.

\* Vide Rush's Inquiries, vol. 4, p. 126, et seq.



It is in this manner, as I conceive, that the notorious predisposition to disease, which is an universal attendant on debility, may be explained. Were we to preclude the influence of health in resisting and repelling the attack of disease, we should find it very difficult, perhaps impossible, to give a satisfactory reason for the exemption of thousands from disease, when they are daily exposed to its causes.

The predisposition, therefore, to this fever, consists, as I conceive, of the peculiar debility, generally ensuing to parturition; greater though in the abdomen and its contents, than any other part; hence the last named parts are least capable of resistance, and generally suffer the concentrated force of the constitutional affection.

#### EXCITING CAUSES.

THESE are such as, acting on the body in a state of predisposition, produce the disease.

It has been very customary with writers on this fever to attribute its production to, 1st, A suppression of the lochia—2d, Inflammation of the uterus—3d, An impeded secretion, an absorption, or metastasis of the milk, and—4th, An absorption of purulent matter.



To the first I object, that in many instances of this fever, the lochia continue during its whole course: To the second, that the usual characteristics of hysteritis are rarely present; and when the disease exists, it is much less fatal than the present: \* To the third, that the milk is very often secreted in its usual quantity; and again, is sometimes suppressed without producing the disease in question. † An opinion, that an absorption of purulent matter, is the occasional cause of this fever, has been adopted and defended, particularly by Leake, Kirkland, and White. This supposition is exceptionable for the following reasons, viz.

1. Unless we can believe that the vessels are much more disposed to absorb pus at one time than another, we cannot account for the entire exemption of patients from fever, who labour under extensive ulceration.

2. Because a fever has not as yet been observed to supervene the absorption of the pus contained in a bubo, and the entire absorption of large purulent collections in scrophulous abscesses. ‡

\* Leake, 2 vol. p. 90. Clark on lying-in women, p. 79.

† Leake, 2 vol. p. 67.

‡ Hunter on the blood, &c. Philad. edit. vol. 2, p. 222, et seq.

3. The present disease often takes place, without that previous cessation, stagnation, and corruption of the lochia, which the advocates of this opinion are obliged to admit, as pre-existing circumstances necessary to its production.

4. And lastly, Because the production of fevers, hitherto attributed to this cause has received a more complete and satisfactory exposition, upon extremely different and far less inconsistent principles.\*

With the above, it has been usual to enumerate as exciting causes, retained fæces, increased secretion of bile, violent exertions during parturition, injury offered the uterus, too tight bandages to the abdomen, the application of cold, &c.

That these may produce the fever I do not deny; I am, however, of opinion, that it is more frequently the consequence of either ingurgitation of stimulating liquors, the alternate exposure to cold and heat, or an excess of the last, effluvia generated from the neglect of cleanliness, and lastly, contagion. That this last frequently produces this

\* Vide Rush's Inquiries, 2 vol. Ar. Consumption, Hunter on the blood, &c, Philad. edit. 2 vol. p. 220, et seq. Surgical and Physiological Essays, by J. Abernethy, p. 68.



fever, especially in cities and hospitals, has been proved by the late Dr. Young of Edinburgh, Dr. Clark of London, Dr. Joseph Clarke of Dublin, and very lately by Dr. Gordon of Aberdeen.

Before we proceed to the consideration of the proximate cause, it will be necessary to attend to the

## APPEARANCES ON DISSECTION.

IN mentioning these I shall divide them into such as are usually met with, and into those which occur less frequently.

1. The most usual appearances on opening the abdomen, are 1st, A discharge of a considerable quantity of a foetid gas; 2d, A collection, in some instances, of five or six pounds of a fluid, somewhat resembling whey, containing frequently portions of a coagulated matter. 3d, An inflammation principally of the peritoneal coat of the intestines, which in some places adhere, and in the interstices between them, we frequently find portions of the coagulated matter just mentioned. In every place again where they are in immediate contact with each other, they exhibit no appearance at all of inflammation. 4th, An inflammation, and very often a suppuration of the omentum. These



appearances occurred so very often in the dissections of Drs. Hulme and Leake, that they were induced to believe, that an inflammation of this viscus was the proximate cause of the fever.

2. The less frequent appearances are

1. An inflammation and enlargement of the uterus: sometimes, though very rarely it has been found in a state of gangrene.

2. The liver has been found inflamed and enlarged in several instances, and in others\* to contain a quantity of pus.

3. An inflammation of the stomach is mentioned by Hulme as sometimes appearing.

4. And lastly, The thorax not unfrequently exhibits marks of inflammation; the lungs having been found inflamed and adhering to the pleura; and in some cases, there has appeared a large collection of a foetid serum in the cavity of the chest.†

\* Hulme, p. 43. Keary's Diff. Inaug. Edin. 1774.

† Leake, 2 vol. p. 93. Hulme, p. 15.

It will be observed, that in no one of the cases in which morbid appearances occurred in the thorax or liver, was there any reason to believe that they were the effects of any disease previous to the present.

Having now considered every thing essentially pertaining to the history of this fever I shall proceed to the investigation of its,

### PROXIMATE CAUSE.

BEFORE we can do this with propriety it will be necessary to attend to the much contested point, viz. whether the local or constitutional, be the idiopathic affection.

The only argument adduced in favour of the first is, that in some instances the abdominal affection has been the first manifest symptom, and that the production of the fever is to be explained upon the supposition of the exquisite sympathy existing between the constitution and abdominal viscera. To this it may be objected, 1. that although in a few cases, the pain of the abdomen may have been the first complaint, yet, almost every writer on this subject mentions the rigor and fever as the first symptoms; so far so indeed, that the experienced Dr. Leake speaks of the pain and swelling as commencing on the second, third, or fourth day.

2. That several completely formed cases of this fever have occurred, in which there was little or no affection of the abdomen, from their commencement

to their termination in death. This is particularly noticed by Mr. White.

3. And lastly, That there is no analogy between this and other fevers more evidently arising from, or rather propagated by, sympathy. Such, for instance, as the hectic from diseased joints, opening large abscesses, &c. These reasons have induced me to believe, that the local affection is always symptomatic; and they will apply as objections, equally to the doctrine of Omentitis, adopted by Hulme and Leake, and to that of Peritonitis, first advocated by the very ingenious and indefatigable Mr. John Hunter, and lately by Dr. Gordon. It will therefore be unnecessary to attend any farther to the inflammation of either of these viscera, as constituting the proximate cause of this fever.

The proximate cause of this fever then, or the fever itself, consists of an idiopathic, increased, irregular, and wrong action of the blood vessels; assuming an appearance somewhat differing from other fevers, in consequence of the peculiar situation of the bodies of the patients, and perhaps the nature of the exciting causes.

That it is idiopathic I infer from its history, and



from its analogy with other idiopathic arterial diseases, in shewing a tendency to terminate, in either profuse vomiting or purging, sweating, abscesses, anasarcaous swelling of the extremities, hæmorrhages,\* or inflammation, and consequent effusion or gangrene.

Perhaps the violence of every disease, and the rapidity of its termination are always in a ratio proportionate to the degree of morbid predisposition, and the force of the exciting causes; and it is upon these principles that we would account for the violence and rapidity of the puerperal fever.

Much has been said with respect to the diathesis accompanying this fever. Some, though very few, have declared it to be inflammatory, whilst most have united in pronouncing it to be putrid or typhous.

Although the last opinion has been adopted and supported by many eminent physicians, yet I cannot assent to it, and am of opinion, that the disease is in every instance in its early stage attended with the most unequivocal evidences of a phlogistic diathesis. This is rendered manifest by the symptoms as they appear, 1st, in the pulse, which is always

\* Denman's Midwifery, vol. 2, p. 500.

frequent, full, and very often tense : \* 2d, in the breathing, which is for the most part, short and difficult : 3d, in local inflammation : 4th, in a scalding or suppression of urine : 5th, in the appearance of a white tongue, and 6th, in the appearance of the blood when drawn. †

The phlogistic nature of the disease is farther proved by the nature of the remedies which have been most successfully used, viz. emetics, purgatives, diaphoretics, and blood-letting ; and from its having been rarely cured without plentiful evacuations, either artificial or spontaneous. ‡ I do not by this insinuate that this fever is invariably inflamma-

\* Tissot, Leake, Denman.

† Dr. Hulme always found the blood fizy. Dr. Clark says the blood always exhibited the inflammatory buff, when drawn in the fever he describes, which he himself calls ‘ a low, or typhous fever.’ Mr. Hewson Exper. Inquir. p. 111, mentions a case of puerperal fever, in which the blood did not coagulate when drawn. Vide Rush’s Inq. vol. 4, for an explanation of this appearance of the blood.

‡ It is truly amazing to observe, what a prodigious influence, a belief of the impropriety of blood-letting in certain diseases, has had on the minds of physicians ; for they have never failed to pronounce them putrid, although they have afterwards declared that many of them, and particularly the present fever, could not be cured without vomiting, purging, or sweating ;—remedies as strictly antiphlogistic as bleeding itself.

tory through its whole progress; as the inflammatory action, earlier or later in different instances, often passes into the typhous, or what may be more properly called, its chronic form. The characteristics of this are, a very frequent, quick, weak, and irregular pulse, a dark tongue, great universal weakness, insensibility or coma, paralysis of the sphincter of the anus, and bladder, petechiæ, &c. This fever then may be aptly divided into 1st, an acute, or inflammatory, and 2dly, a typhous or chronic state—each requiring very different remedies.

Before we treat of the cure, it will be necessary to attend briefly to the

### PROPHYLAXIS.

THE first object here is to avoid carefully all the predisposing causes above enumerated; and 2dly, After parturition, the exciting causes are to be guarded against, particularly costiveness, too much warmth, stimulating drinks or aliment, sudden emotions and passions, a neglect of cleanliness, the application of too tight bandages to the abdomen, an impure state of the air in the patient's chamber, and lastly, contagion.

We proceed now to the most interesting part of



our subject, and upon which there is a very great variety of opinion, viz.

## THE CURE.

IN treating of this, we shall attend to the two states above laid down and mention such remedies as are best accommodated to each.

1. In the acute or inflammatory state, which proper attention will generally render manifest, the remedies are, 1. Blood-letting, 2. Emetics, 3. Purgatives, 4. Blisters, and 5. Sialagogues.

1. BLOOD-LETTING. The use of this remedy in this disease, has on the one hand, been much condemned by Boerhaave, Clark, White, Manning, Kirkland, and others; and on the other, has been as strenuously advised by many of equal eminence, viz. Leake, Hulme, Denman, Burton, Smellie, Tissot, Johnson, Millar, and Gordon.

To preclude or advise the use of a remedy upon mere authority, is equally improper: but the propriety of bleeding in the present disease has been established, by its very great utility in the practice of my preceptors, Doctor Gilliam, and Doctor Phisick; each of whom has repeatedly used it with

the happiest effects ; and also by the very great success, attending its very liberal use, by Dr. Gordon, in a puerperal fever lately epidemic at Aberdeen in Scotland.\* The propriety of using this remedy is farther confirmed by the symptoms, particularly the pulse, and the appearance of the blood when drawn ; and the want of success with it in the hands of other practitioners, is to be attributed rather to its being improperly used either as to time or quantity, than to its general impropriety.

The extent of the evacuation, as well as the frequency of its repetition, can only be determined by the existing circumstances of any particular case. In every instance, however, it will, as I conceive, be more advantageous, in proportion as it is employed more immediately after the accession of the fever.

2. EMETICS. These appear to have been originally used in the present disease for the purpose of evacuating bile, or removing nausea, by Drs.

\* Vide Darwin's Zoonomia, 2d part, 2 vol. Philad. edit. p. 317. Dr. Gordon bled to 16 or 24 ounces, and directly after gave a large dose of jalap and calomel ; repeating the last for several days. He says that all whom he treated in this manner to the number of 50 recovered ; and that almost every one, who was not thus treated, died.



Leake and Denman. They have since then been highly recommended by M. Doulcet, as the most effectual remedies for the entire cure of this fever; and it appears from the report of the Royal Medical Society of Paris, that they were used with the happiest effect in a number of instances in the Hotel Dieu. The success of these remedies in the practice of M. Doulcet, will not appear surprising, when we consider that they always induce much nausea, which as long as it lasts, remarkably diminishes the action of the pulse; sometimes a considerable evacuation; and that he repeated them daily.\* I cannot however, agree with him that Ipecacuanha has any exclusive title to the preference he has given it; and much less can, I believe, in its alleged specific virtues; for the Antimonium Tartarisatum has been found equally efficacious in the hands of Denman and Manning; and as possessing more considerable diaphoretic powers, upon which no doubt, the success of this class much depends, I should think it in every instance equal, or superior to Ipecacuanha. The use of emetics has received the sanction of most writers on this disease, particularly of Dr. Clark; yet as being very disagreeable remedies, and as they require a frequent repetition to be of any effect, I cannot admit that they are entitled to that preference which many have given

\* Vide Whitehead's translation of Doulcet's Memoir.



them, and should only use them either as auxiliaries to bleeding, or in cases of weak action, and such as might render the propriety of bleeding doubtful, or where there was much nausea.

3. PURGATIVES. The use of these in this fever, appears to have at first originated from an opinion of the critical nature of the diarrhœa, and accordingly on some such principle we find their use strenuously insisted on by almost every writer on the subject. They are undoubtedly useful remedies, and may be advantageously used in most instances, but particularly in such as are attended with costiveness, griping, bilious symptoms or ischury. Some have gone so far as to place their principal dependence upon them for effecting a cure; but they are rather to be used in conjunction with other remedies, particularly with blood-letting, than with a view of alone curing the disease; unless it be in such cases as are attended with an inconsiderable degree of violence.

The particular purgatives to be used, and the frequency of their repetition can only be determined by the circumstances requiring their exhibition.

4. BLISTERS. The application of these has been very generally condemned upon a supposition that

they increase irritability and produce strangury.\* These are certainly weighty objections, but they are such I believe, as occur more rarely than has been imagined; as I have seen them applied in two instances immediately to the abdomen without any pernicious consequence, but with the most evident good effects.† If they ever prove injurious it must be owing to their being employed before the diseased action has been sufficiently reduced by evacuants or its own continuance; as in all such instances they most certainly add to the existing irritation. To remove any objection to their use when applied to the abdomen, we may derive equal advantage from their application to the extremities. They are to be used after depletion, when the force

\* It may be observed that strangury from the application of blisters in the present disease, is a favorable symptom, as it denotes the return of irritability, or sensibility.

† This and the next remedy produce their curative effects, as I conceive, principally in consequence of the irritation and action they excite, being in all cases of their successful application adequate to the counteraction of the diseased one. They are therefore particularly applicable to cases of moderate or weak action, or after the use of evacuants, and are alike adapted to each form of this fever, with this difference, however, from other stimulants; that in consequence of their not acting primarily or principally on the arterial system, they are admissible in many cases of fever, in which stimulants, or tonics, properly so called, would be productive of the most injurious consequences.



of the disease is in some manner lessened, and particularly in all such cases as appear to forbid the farther use of venæsection.

To derive benefit from them, they are to be repeatedly used. In the present instance they appear to produce their good effects upon the principle of a counter-irritant, revellent, and perhaps an evacuant.

5. SIALAGOGUES. Under this class I at present comprehend Mercury and some of the fossile acids.

The discovery and application of the very powerful qualities of mercury, to the cure of fever has been in a peculiar manner the agreeable province of the physicians of the present enlightened day, and perhaps society would not as yet have been deprived of many of its brightest and most distinguished ornaments, had the powers and efficacy of this single article of the Materia Medica, in the cure of disease, been earlier, and more generally understood.

In the present disease, a salivation has been found so very certain in its effects that in general we may consider the cure as accomplished, whenever this effect is produced.



This remedy is to be employed particularly in such cases as are obstinate and will not yield to the usual and less disagreeable remedies ; and indeed, in every case of a very violent disease, in conjunction with evacuants, &c. It may be introduced either by the mouth, inunction, or by both, and always in such quantities as speedily to excite a ptyalism.\*

As some of the acids, particularly the nitric, and oxygenated muriatic, have been lately found to possess the power of producing salivation, and of curing syphilitic complaints ; and as they very probably produce their effects by exciting an action similar to the one created by mercury ; and as we account for the curative effects of this last medicine upon the principle of the peculiar action it excites ; they no doubt might be used with equal advantage in the present disease.

## 2. In the chronic or typhous form of this fever,

\* The celebrated Italian anatomist Mascagni, was the first who advised the application of mercury to the soles of the feet, as the most speedy external method of introducing this medicine into the system ; and in this manner it has been successfully used. Professor Barton has also found the application of a mercurial wash to the palms of the hands, to be extremely efficacious and speedy in producing ptyalism,

the indication of cure is, To remove or counteract the diseased action, by the use of certain Tonics\*, and Stimulants ; such as Peruvian bark, Colombo root, Virginian snake root, wine, opium, blisters and mercury.

As soon as we discover by the weakness, frequency, and quickness of the pulse, and the other symptoms above mentioned, that the inflammatory has terminated in the typhous form, we may commence the use of the Peruvian bark, giving it either in substance, infusion, or decoction, in such quantities as circumstances may require. Should it produce diarrhœa, or should this symptom otherwise exist at this time, more or less laudanum may be added to each dose of the bark.

An opinion of the putrid nature of this disease, and of the antiseptic powers of the Colombo root, appears to have induced some, and among others, Mr. White, to recommend it here, particularly in

\* Although I have complied with custom in giving place to the word Tonic, as characteristic of a certain class of medicines ; yet I am far from believing, that their beneficial or curative effects can be attributed to their positively increasing the general strength, or tone of the solids ; and I would rather ascribe their effects to their operation as a peculiarly modified stimulant, or rather incitant,



such instances as are attended with a considerable diarrhœa, but as it appears to possess but little power of action on the blood vessels, and to act specifically, as it were, on the intestinal canal\*, it can never, as I conceive, claim much attention in this or any other fever. In a state of convalescence, it would no doubt, have its use.

In conjunction with these remedies, particularly with the Peruvian bark, the Virginian snake-root has been recommended. As such a combination has been found to increase considerably the efficacy of the bark†, in the cure of other fevers, it might probably be used, with equal advantage in the present ; and particularly in such as are attended with very weak action.

Wine as an agreeable stimulant may be very properly used in conjunction with other remedies ; alone it would be of little benefit.

In addition to these, we may now very properly have recourse to blisters ; to be used rather as rubefacients, than with the intention of producing much vesication or discharge. They may be applied to

\* Rush's Mfs. Lectures.

† Lewis's M. Medica, 2 vol, p. 196. Dr. Barton's Mfs, Lectures.



either the lower or upper extremities as convenience may direct. To be advantageous a continual irritation is to be preserved by their repeated application. With a similar intention the application of sinapisms has been very judiciously recommended by Dr. Clark. In addition to these I should also prescribe garlic cataplasms, and should expect much advantage from its internal use.

In this as in the former stage we are to use mercury, so as to preserve a continual irritation in the mouth; but it is never to be used so plentifully as to produce much salivation.

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